TB EPIDEMIOLOGY

OBJECTIVES

- Describe process for submitting TB Incident Reports
- Discuss the role of DGMQ in TB control
- Discuss the use of genotyping data in TB control

TB INCIDENT REPORTS

MARY POMEROY, NURSE EPIDEMIOLOGIST

TB INCIDENT REPORTS

- Tool for notifying the Central Office of any "concerning" TB exposure event.
 - 25 or more contact in K-12 setting
 - 50 or more contacts in a single exposure site (workplace, college, congregate setting, etc.)
 - Media- or politically-sensitive
 - Any circumstances concerning to regional/local TB program
- Potential for an event to become concerning is equally important!



TB INCIDENT REPORT



- ☐ Complete IR and upload to PHIN
- ☐ Send email to TBEpiEvaluation@dshs.state.tx.us with file location, name, and password.
- ☐ Schedule conference call to discuss event with TB Branch's Epi Support Team
 - ✓ Epi Team will review and determine if event meets criteria for TB Alert
- ☐ Provide routine updates on status of contact investigation to Epi Support Team as needed

INCIDENT REPORTING FY2015

Fiscal Year 2015:² TB Incidents Reported to DSHS Central Office

Exposure Location	#Cited Exposure Locations ¹	Submitting Jurisdictions	# of Incident Reports
Elementary School	3	Angelina	1
Middle School	2	Austin	9
High School	4	Dallas	2
College	8	Denton	1
Hospital	16	El Paso	10
Nursing Home/ Assisted Living	1	Harris	3
Workplace	23	Hidalgo	19
Jail/Community Corrections	15	Houston	15
Other	19	Laredo	2
Total	91	Region 11	4
		Region 2/3	1
reports were sent to the TB Central Office. These incident reports		Region 4/5	2

Tarrant

Total

Williamson

76

Note¹: In FY 2015, 76 incident reports were sent to the TB Central Office. These incident reports are broken down by Exposure Location and Submitting Jurisdiction. Among the 76 incident reports, 91 total exposure locations are mentioned in the incident report. 15 TB patients listed more than one exposure location cited in their incident report (e.g. one TB patient had both a workplace and a college investigation).

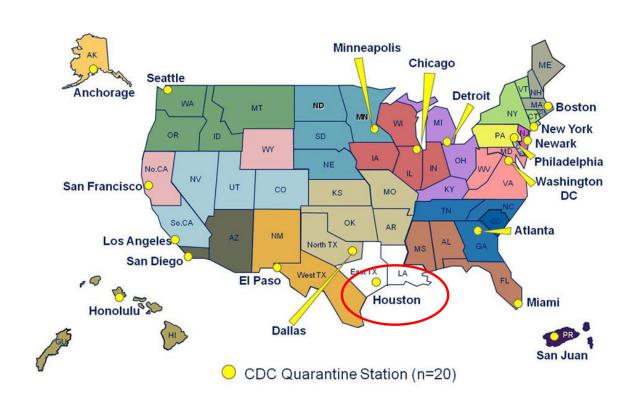
Note²: fiscal Year=September 1 - August 31, 2015.

DIVISION OF GLOBAL MIGRATION AND QUARANTINE

TONYA CONLEY, CDC PUBLIC HEALTH ADVISOR

DIVISION OF GLOBAL MIGRATION AND QUARANTINE (DGMQ)

- 20 CDC Quarantine Stations (QS) at international ports-of-entry throughout the U.S.
 - Legal authority to detain any person who may have a quarantinable disease
- Houston QS primary point of contact for TB Branch
 - Flight Investigations
 - Federal Travel Restrictions (Do Not Board)
 - Look Out List



FLIGHT INVESTIGATIONS

Notification by QS

- Central Office receives notification of exposure from Houston QS via EpiX
 - Airline, flight number, arrival/departure cities, date of travel, length of flight
 - List of contacts (name, address, phone number, seat number)
 - TB Flight Investigation Outcome Form
 - Completed by TB Program and returned to TB Branch within 14 days
 - TB Flight Investigation Outcome Form returned to DQMG

Notification by Regional/Local TB Program

- Regional/Local TB Program notifies TB Branch of potential flight exposure
- TB Branch requests index case data
 - Lab/radiology results
 - Clinical presentation
 - Flight Information
- Houston QS review case records and determines need for flight investigation
 - Notification received by Central Office via EpiX

FEDERAL TRAVEL RESTRICTIONS: DO NOT BOARD

- Initiated by Regional/Local TB Program
- Prevents individuals who pose a threat to public health from obtaining boarding passes for inbound/outbound flights within the U.S.
 - Applies to U.S and non-U.S. citizens
- Issued in collaboration with DQMQ, state/local programs, Department of Homeland Security, airlines, and local law enforcement

- International notification
 - Canada and Mexico notified of every DNB action
 - Other countries notified per protocol
- Does NOT prevent individuals from boarding ships, trains, or buses

FEDERAL TRAVEL RESTRICTIONS: DO NOT BOARD

- Travel restrictions can significantly limit an individual's civil liberties
 - Accuracy of documentation and timely notification is essential
 - Infectious
 - Non-compliant, unable to locate
 - Risk for travel
 - Travel restricted needed to enforce a public health order
 - DQMQ works with airlines to issue travel voucher at no-cost to individual once cleared to travel



DGMQ: LOOKOUT LIST

- Applies to international passenger arrivals at U.S. airports, seaport, and land borders
- Customs and Border Protection officer alerted that person of public health interest will/has entered the U.S.
- CBP notifies CDC QS of individual's arrival
- CDC QS initiates investigation to determine the need for follow-up

GENOTYPING

MARY POMEROY, NURSE EPIDEMIOLOGIST

GENOTYPING

- Laboratory method to examine minute differences in strains of M. tuberculosis
- Two or more matching genotypes suggest that disease may be involved in the same chain of transmission
 - Why is this useful?
 - Confirms linkages between cases
 - Identifies previously unknown source case
 - Identifies previously unknown contacts
 - Distinguishing relapse from new infection
 - Detect false-positive culture results
 - Detects and prevents outbreaks*

GENOTYPING

M. Tuberculosis isolate submitting for genotyping



Genotyping results linked to RVCT



Routine monitoring of genotyping results via TB GIMS



Evaluate the need to initiate a cluster investigation



Review genotype data with Regional/Local TB Programs



Identify and prioritize genotype clusters

GENOTYPING ROLES

Local/Regional TB Program	Surveillance	Laboratory	TB Branch
✓ Completes RVCT in timely manner	✓ Creates Suspect Record	✓ Receives raw specimen or isolate	✓ Point of contact for genotype inquiries
✓ Submits lab reports and facilitates submission of specimen to DSHS	 ✓ Assigns RVCT number once minimum criteria met 	✓ Processes specimen and submits to CDC	✓ Processes request for TB GIMS access
✓ Monitor Suspect Records in TBPAM	✓ Enter case information and transmits to CDC	✓ Resource for technical support and laboratory	✓ Conducts routine assessment of genotype clusters
✓ Monitor "concerning" clusters	✓ Links genotype results to RVCT		✓ Initiates cluster/false- positive investigations
✓ Communicate with TB Branch			

QUESTIONS

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Epi Team Support

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